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THE Journal of Home Economics

For those interested in Homemaking, Institution Management, and Educational Work in Home Economics

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THE
Journal of Home Economics

VOL. XIII AUGUST, 1921 No. 8

HOME ECONOMICS AT ILLINOIS[1]

EUGENE DAVENPORT

Vice-President, University of Illinois

The University of Illinois was one of the first institutions in the United States to turn its attention to the problems of home and homemaking. So well did the early attempts succeed that the President of the University married the professor, and so small was the outfit that this wedding ceremony closed out the enterprise, whereby the development of the subject of home economics went into a state of suspended animation. It was revived after many years and put under the direction of Professor Isabel Bevier, who entered the service of the University on April 18, 1900—an excellent beginning for the twentieth century.

There was much discussion about an appropriate name. Professor Bevier, I remember, felt that the need of the times was for something which might be called "Applied Science for Women" but the demand was for instruction in homemaking, and the choosing of the term "Household Science" for the name of the department was, all things considered, entirely logical. As in many other new enterprises, much time and energy were expended, if not wasted, over the country in the discussion of mere nomenclature, and the term "Domestic Science" settled down upon us, particularly in the high schools, as a kind of permanent name for this latest adventure along academic lines. Still later, further attention was given to the much debated subject, this time the idea of economics being emphasized, and Illinois followed the custom of most colleges in adopting the new name of "Home Economics," by which the subject has latterly been known.

[1] Presented at the Recognition Service in honor of Professor Isabel Bevier, May 26, 1921. Professor Bevier retires this year from her work at the University of Illinois.

Whatever the name, the subject matter of study covers those three great fundamentals of civilized society—food, clothing, and shelter. Naturally at Illinois as elsewhere, the earliest attention was bestowed upon food, more especially from the standpoint of proper maintenance of the human body. The study of clothing came later, but with regard to shelter, we have as yet hardly made a beginning.

Chemistry having been a leading science in this great field, as in agriculture, it was more than natural, indeed it was quite necessary, to employ this great science in the earliest stages of exploration; but it became more and more evident that not only chemistry but physics and physiology lay at the bottom of the food question, if not also of clothing. Later on, the subject of expending family income began to bulk large in the study and teaching of this great subject. Here as elsewhere, the question of good taste, as expressed in design and decoration, even of our tables, came into proper prominence; and the department has expended no little energy and careful thought in the attempt to establish these fundamentals upon a foundation of good taste.

Finally, this department has never for a moment forgotten the fact that all these subjects are distinctly humanistic and involve to an exceptional degree that quality known as the human equation. For that reason the teachings of the department have been in the concrete rather than in the abstract, always with the definite purpose of making its appeal to the better side of humanity in its domestic relations.

From the very first, the department has been keenly conscious of its objective. If it had been established mainly for the purpose of training women for professional careers, I presume the subject matter would have been somewhat differently treated, and perhaps upon the whole, a different set of results would have been accomplished. However, while the department has never lost sight of the human element and of the basic fact that it deals with human beings, yet it has constantly kept in mind the thought of human beings in the home relation, and its great purpose has always been to improve the home, either directly through the training of housekeepers or indirectly through the training of teachers.

It is my abiding opinion that this fact lies very close to the foundation of the remarkable success that has attended the career of Professor Bevier in the University of Illinois. Much as she has been interested in her girls, and assiduously as she has labored to find them positions, after all, the one purpose always in mind as the final goal of all that might be said and done and taught was nothing less than the American home. For her ability always to keep this in mind amidst all the strain and

stress of pioneer endeavor, the country owes her a debt of gratitude above that which is owing to most women. She has had her associates and her co-laborers, both here and elsewhere, and many have achieved much in this most useful field, but among them all no name stands higher for the great objective than that of the woman we honor today.

The objective being clearly in the mind of the department, its service to the University became almost a matter of inference. Clearly, if the sole purpose of the department had been to develop professional courses, it could never have appealed to the great mass of women students of the University nor would it have had the direct contact with homemaking which it has all along enjoyed. Because of this objective the purpose has been to make the appeal to all classes of university women seeking a higher education. Its courses have therefore been outlined and conducted with a double purpose in mind: First, the presenting of home economics as a part of a liberal education; and second, the development of courses leading to a profession in teaching, dietetics, and cafeteria management.

During the twenty-one years of the existence of this department, there has come into its service in one way or another no fewer than 72 individual members of the faculty, 55 of whom have belonged to the instructional staff, serving it throughout the academic year. This faculty has been drawn from many institutions and has represented the best thought of many people. It has served faithfully and loyally with results which I am sure are extremely gratifying.

The first five graduating classes, beginning with that of 1903, numbered, respectively, 3, 4, 5, 7, and 9; after this the number rapidly increased, reaching 94 in 1918, but dropping somewhat for the last two years, under the influence of war conditions. The total number is 630, of whom 190 are married, 228 are teaching, 14 are cafeteria directors, 26 are dietitians, a considerable number are widely scattered in various lines of work, and 14 have passed beyond.

The total number of students coming under the instruction of this staff for the last 21 years is approximately 5000. The number registered for the current year is 560, of whom about 80 per cent are majoring in home economics, the remaining 20 per cent representing that group of young women whose chief interest is in other lines and yet who desire some touch with this great subject as a part of a liberal education.

If efforts are to be judged by their results, whether in respect to alumnae or the present registration of undergraduate students, it is not too much

to say that the purposes of this department have been in the main accomplished, by which is meant that the department has trained hundreds of competent executives and teachers without such exclusive attention to the professional as to break the contact with that great mass of university women who are to become, not teachers or professionals of any kind, but the heads of American homes. To achieve this double purpose has been the great ambition of the department, in which it has eminently succeeded.

Naturally, when a great work has been accomplished, we seek the individual whose leadership has blazed the way, realizing well that in all great work there is somewhere in the enterprise a genius and a guiding hand. In this case the individual is not hard to find.

Professor Bevier has given her life unsparingly to the development and conduct, day by day, of this department. The field was almost entirely new as a university subject. People in general have only now begun to realize that the great business of housekeeping rests upon scientific principles if only they can be discovered and brought out. There was naturally much impatience twenty years ago at what appeared to be slow progress. There was much demand for the doing of impossible things, and here, as in many cases, it was the friends of the movement who in some respects made progress difficult by expecting of the department what it could not render without entirely setting aside its university objective.

If it had yielded to pressure fifteen or twenty years ago, we should not now have, as we do have, strong and well developed departments of home economics in hundreds of high schools in the country. Realizing the significance of a university department in home economics as compared with a high school department, Professor Bevier set her face strenuously to the development of such courses of instruction as would produce permanent results.

It was decidedly pioneer work for Professor Bevier and her co-laborers. Here she was hard at work making bricks both with and without straw. In other places other pioneers were dreaming and working, succeeding and failing, each trying as best she could to solve the problem of her institution and locality, but each was practically working alone for the study was not understood in university circles, even being considered, in many places, as an academic joke.

In many ways these good women did not have even a fair chance. For example, when a well trained professor is greeted in the morning by her associates with the threadbare question, "Have you got the dishes

washed?" it is not the sort of inspiration needed to develop a great new subject. In those early days the most common allusion to a home economics department was as a matrimonial factory, a challenge which was immediately accepted by this department, which undertook to justify its line of work on the broad basis of homemaking. By attending strictly to its business and by getting results, this department has slowly but surely justified itself, not only in the opinion of the student body and of the public, but of the faculty as well.

I think it is not too much to say that at present no department of the University enjoys more of the confidence and respect of the institution than does the department of home economics. To say that this gratifying achievement is mainly the work of one person is perhaps putting it too strongly because Professor Bevier has had many able and loyal associates within the department and in kindred departments. But even so, the difficult task of choosing between alternative courses, of deciding what to do and what not to do, what to undertake and what to let alone—this great task has rested almost entirely with the head of the department, and there have been few to help her, not from an inclination on the part of the rest of us to avoid responsibility, but from sheer inability to function efficiently in this great subject. Her nearest associates in administrative circles have been obliged to rest content with standing on the side lines, dropping here and there a word of encouragement but realizing all the time that their real service was of slight account. All in all, therefore, whatever success we have achieved in this University in the development of home economics must go, so far as leadership is concerned, exclusively to the one whom we honor today.

She has not only been a force in the development of her chosen subject in the University of Illinois, but she has been a national figure as well. She has been an inspiration to thousands of young women who have been so fortunate as to come under her influence, and she has been a benediction to the University.

We count it fortunate for those who may come and go as the years go by, and fortunate indeed for those who sojourn here that so excellent a portrait of so lovely a character shall be left among us as almost a speaking remembrance of her who so long labored that others might live better lives. We are all deeply grateful to the alumnae of this department for their labor of love in bringing this portrait into existence and hanging it upon the walls where it may meet and greet with its inviting smile the thousands who come afterward.

PRACTICAL TEACHING OF TEXTILES IN HIGH SCHOOLS

GRACE G. DENNY

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For high school textile work, the teacher can well afford to forget manufacturing processes and historical phases of the textile industry. If she will look about her in any class room, she will find enough textile material for a series of interesting lessons more practical and more immediately usable than can be gained by the text book approach.

Take, for example, the wool fabrics represented in the coats, suits, and dresses of the teachers and pupils. A variety of introductions may be made to the subject of wool. Any approach which is immediate and natural will catch the girl's interest at once.

Following are three suggested lines of study growing out of the wool clothing found in class:

One Method of Approach

Identify wool materials: Those found in class. Those known at home.

Contest to see who knows the most wool materials: Pupils bring samples from scrap bag at home. Mount a sample of each and place before the class, or wear a garment showing a kind of cloth.

Practical quiz on fabrics: Pass around samples (numbered) with no information. Pupils write down, opposite number, the name, width, composition, (all or part wool), weave, or whatever facts studied.

Compare fabrics: Give characteristics—good or bad points; e.g., velour catches lint, French serge wears shiny, broadcloth with nap pressed one way requires more material for cutting.

Compare cost: Include width and length of wear. Compare similar materials, as albatross, challis, cashmere, or serge, cheviot, tricotine.

Study wool and cotton mixtures: If an example of this kind is shown, find other materials, as brilliantine, cotton warp baby flannel, shepherd check mixtures, viyella flannel. Test by burning yarns raveled out of cloth. Test by boiling in household lye. When are cotton mixtures desirable? As in children's dresses and blankets. When are cotton mixtures undesirable? As in cotton warp serge. Why is wool warm? Why does wool not wrinkle like cotton? Why does wool shrink (borrow microscope and show fibers).

A Second Suggestion

Clothing budget (collect data in class): Cost of dresses and coats. Length of wear. Plan a budget on two or three year basis.

Discuss buying of coats and dresses: Ready-made vs. homemade. Does it pay to buy high grade garments that wear longer? Materials, what to expect of them. Colors and textures. Style or lines, becomingness. Trimming.

Possible shopping excursion: Someone is to buy cloth or garment. Let class make study of garment or cloth at store.

Care of garments (demonstrate with actual garments): Pressing—extreme heat harmful to wool and silk. Brushing. Sponging. Hanging up. Dress covers. Protection from moths. Removal of spots—acid stain from chemistry laboratory (neutralize), grease spots, paint spots, ink spots. Remove actual stains in laboratory or class room.

Removal of shine from French serge: Demonstrate. Explain cause of shine. Explain worsted yarn and cloth.

Washing sweaters or infant's wool clothing: Demonstrate in laboratory, or discuss it, have it done at home and result brought in. Explanation of shrinking. Proper method for washing woolens.

Mending and repairs: Patch (if one is needed). Darn (with yarn from cloth or human hair). Use of mending tissue. Sewing on buttons, hooks and eyes, and general repairing needed on actual garments. Have a day for putting clothes in order. Bring garments from home.

A Third Possible Plan

Where do our clothes come from? Store, factory, mill, sheep ranch. Local store or mail order house.

Clothing factories—New York, Chicago, Buffalo. Conditions in factories.

Cloth mills—Pennsylvania, New York, New Jersey, Massachusetts. Local western mills—Oregon, Washington. If near a mill, plan to visit it.

Sheep growing—Australia, South America, Wyoming, Montana, Ohio, Oregon, Washington, California. If in sheep-growing region, get facts about local industry. Where are fleeces sent? Why grow sheep for mutton and use wool as by-product? What is heavy shrinking wool?

Kinds of wool—Short, kinky, long, smooth. Hair—mohair from Angora goat, camel's hair.

Kinds of wool cloth. Why the difference between challis and tweed, gaberdine and mackinaw cloth? What is shoddy? Where is it used? Why?

Collect pictures (magazines, papers, books—The National Geographic Magazine is excellent) showing countries or cities where wool is grown or manufactured. Let any member of the class bring in things of interest on the subject.

Store exhibits: Ask merchant to write for exhibits showing grades of wool and processes of manufacture to make window display. Let pupils study material.

Likewise, one might take cotton goods used in sewing classes and discuss the above phases and many others which will naturally suggest themselves. Suppose the cooking laboratory needs a supply of towels. Why not make use of this opportunity to teach a real lesson in shopping? Let a group of girls plan with the amount allowed what kind of towels and how many shall be purchased. They may do the buying, hemming, marking, and laundering. To do this, they must know what is in the market and whether huck, crash, or glass towelling will best suit their purpose. The pocketbook will decide between cotton and linen. At the store, they will find two or three qualities from which they must choose. This choice calls for exercise of judgment. Is there a difference in absorbing power, wearing quality (which means withstanding the attacks of the laundry)? To purchase towels intelligently, the girls should know the relative value of cotton, linen, and union fabrics, the relative strength of crash (plain weave) and huck (fancy weave), the relative absorbing power of honeycomb, huck, terry, crash. They should be able to detect an excessive amount of dressing. The question of buying toweling by the yard or the made-up towels may have to be settled.

Is it not possible for the teacher with the aid of the merchant to give the girls an actual lesson in shopping? After all, this is our purpose in teaching textiles.

This brings us to the question, "Should textiles be taught in high school"? Our aim is to train for actual homemaking. Does the homemaker think of her duties as dietetics, textiles, household management, budget making? If we ask ourselves 'What does the homemaker need to know about textiles?", the answer will eliminate much that is in our text books. As intimated above, the project method does away with formality. It deals with existing circumstances as the actual homemaker must do. This approach to the subject will doubtless win greater approval from the mothers of high school girls. But many a teacher will protest that facts will be omitted and there will be no uniformity in teaching. What if facts are omitted? Unless they serve to make the girls better purchasers, they are not useful here. I have no desire to see textile teaching standardized. It should be spontaneous and grow out of the local need.

Suppose the dining-room or the girls' rest room at school needs furnishing, or that some mother will allow the class to plan the furnishings for a room in her home on a certain sum. This is real home furnishing.

It is exciting to learn about rugs and curtains, color and design, when one can actually carry out her own ideas. There is not only the study in books, magazines, and stores, and the actual buying, but there is the making and hanging of curtains, making pillows, table covers or couch covers, and, finally, the report.

In connection with the study of child care, a complete layette may be made for a hospital baby or a small brother or sister. Here is not only an acquaintance with many materials (knitted goods, flannel, nainsook, batiste, albatross, eiderdown, birdseye) but an appreciation of dainty stitches and design, a study of costs and care of clothing—all related to a real, live baby.

These are merely a few suggestions showing the way this snowball of interest will grow, provided it starts rolling near home.

It is hard to believe that there is a high school girl entirely indifferent to her own clothes. If she cares about her appearance, she cares about her clothes. Her clothes are made of cloth (exception leather). Likewise, every normal girl cares about having the house beautiful; her mother's home where she receives company, and, most of all, her own future home. She wants it attractive and to accomplish this, she must know how to get the most for her money. House furnishings consist largely of textile fabrics, as bedding, table linen, towels, rugs, hangings.

Here is the motive, the interest is easily aroused. The teaching material is at hand!

Methods and Teaching Agencies

Get acquainted with local merchants. They will want to cooperate.

Get acquainted with the mothers. They will share their scrap bags with your classes.

Bring examples of your own clothing or room furnishings to class. Collect good examples of table runners, pillows, pottery, pictures, which you may show to classes.

Secure films showing manufacture of textiles or clothing.

Mount pictures of interest. Place on bulletin board. Use in connection with subject being discussed.

Borrow ready-made garments from stores.

Have class excursions to stores and homes.

Compare (where possible) new and washed or worn fabrics, as towels, handkerchiefs, table linen, hosiery.

A SURVEY OF FARM HOMES[1]

ILENA M. BAILEY AND MELISSA FARRELL SNYDER

Office of Home Economics, United States Department of Agriculture

The survey on which the following article is based was planned primarily as an aid in developing methods of extension work in the North and West. The findings include much valuable information regarding the character and equipment of typical farm homes, the kind and amount of labor performed by the farm housekeepers, and the relation of the farm home to the life of the community. Since these subjects are now receiving wide discussion, a summary of this part of the survey is here published as a contribution to the definite information on which must be based any satisfactory solution of farm home problems. It is much to be regretted that no entirely comparable studies of city homes are available.

St. Joseph County in southern Michigan was chosen for this survey because, in the prevalence of diversified farming, in the proportion of tenant farmers to owners, and in various other conditions, it was considered typical of the agricultural districts of the twelve North Central States within which resides about one-third of our farming population.

The towns, none of which has a population of much more than 6000, are connected by good gravel roads, and five railroads cross the county, giving easy access to several cities. Battle Creek and Kalamazoo, Michigan, and Fort Wayne, Indiana, are all easily reached by rail within $2\frac{1}{2}$ hours. The country is gently rolling and varied by many bits of woodland and by numerous small lakes, whose shores are lined with resorts and cottages. The principal crops are corn, wheat, oats, rye, and beans. Special crops are produced, such as fruits on the rough land, potatoes in sandy soil, and mints on the large marshes.

The areas surveyed were near the towns of Colon, Centreville, and Three Rivers. Each of the 91 farms in the selected areas was visited. The questions asked covered the general character of the farm, the make-up of the family, and the following phases of farm home life: the house and its equipment, household labor, social life, and economic conditions. Data were also gathered regarding those phases of farm work which most directly affect either the food supply of the farm, or the work of farm housekeepers.

[1] This survey was made in St. Joseph's County, Mich., in the spring of 1917.

All the women interviewed spoke English easily. With possibly two exceptions all were native-born, though the surnames indicate that one-third of the families were of German descent.

The farms ranged in size from 3 to 400 acres, with an average of 115 acres, of which an average of 97 were under cultivation. Except for a few fruit and dairy farms, diversified farming was the rule in the areas studied.

There were 72 owners and 19 tenants among the farms studied. The records do not indicate any noteworthy differences between the two groups, save that, as usual, the tenant farms averaged larger than those worked by the owners.

Because the length of tenure of a farm affects the amount of improvement that can wisely be made on a farm home, data were collected to show the length of time the families stayed in one community and on one farm. Fifty-two per cent had lived in their present community 25 years or more, 8 per cent less than five years, and 2 per cent less than two years; among the families who had lived from 2 to 5 years in one community, 25 per cent had changed farms, and this percentage was found to increase gradually as the length of time the families had been in the community increased until, among those who had lived there over 25 years, 75 per cent had moved from one farm to another. Some changes are, of course, due to tenants becoming owners and to marriages.

Live Stock. All of the farms reported cows; less than three were kept on 21 per cent of the farms, and from 10 to 15 on 9 per cent. The average number of birds in the flocks of poultry was 78. The number of young birds raised per year varied from none to 350, with an average of 117 for the farms reporting. In many cases the need of better methods in the care of poultry was shown by the fact that the number of birds raised was much smaller than the number hatched.

Orchards. Seventy-five per cent of the farms reported orchards, some for home supplies only, others for both home and commercial use. Apple trees predominated but there were also cherry, peach, pear, and plum trees in the home orchard. Families having no orchards purchased fruit for home use or had it given to them by their neighbors. All the families seemed to be fairly well supplied with fresh fruit and preserves. Whether it is worth while for the farm wife to use valuable time and energy in trying to put up the poor fruit produced by such dying and untrimmed trees as were frequently seen along the roadsides is perhaps doubtful, but the fruit from a good orchard is a valuable part of the food supply of the farm family.

Gardens. Gardens were found on all the farms. In most instances only one planting was made a year and only the common vegetables were grown. Three farms had surplus garden products to sell. In general the families studied did not appear to be so well supplied with vegetables as with fruits.

Grounds. Notes were made on the character of the grounds surrounding the farm houses because this affects both the attractiveness of the place and the cleanliness of the house. All of the places would have been improved in appearance by more shrubs and vines to soften the sharp angles of the house and to screen the foundations and outbuildings. Most of the houses had lawns in front, but in a few cases these had been pastured so closely by farm stock that there was no grass left. Scarcely a house had a grassy back yard; in most cases the soil had been tramped bare by men and animals, and there were patches where it was kept saturated by the waste water thrown out from the kitchen. Under such conditions much unnecessary dirt is tracked and blown into the house, and the work of cleaning is increased. The practical and esthetic advantage of well kept home grounds is a point now being emphasized in the programs and campaigns of rural home clubs.

General character of houses. With possibly three exceptions, all the houses were painted and in fair condition. Many had had additions built and as a result the floors and roofs were on different levels. Such irregularities in plans and levels often complicate the problem of installing drainage, heating, and lighting systems. In over 11 per cent of the houses in this study, there were steps between the dining room and the kitchen. The disadvantages of such differences in floor level, where there is much passing, is obvious.

The number of rooms varied from 4 to 15 with an average of 8, exclusive of halls and bathrooms. This allows an average of one person to two rooms, whereas in city surveys the average is one or even two persons per room.

One third used the same room as dining room and kitchen, and 19 per cent of those who reported having these rooms separate ate in the kitchen during the winter. This saved labor and fuel but at the sacrifice of pleasant surroundings.

Storage facilities. In the great majority of houses the cellar was the chief storage place for fruits and vegetables though in a few cases they were buried in the ground. Over half the families stored meat in the cellar, while about a third had a smoke-house or other outside building for the smoked meats. Eighty per cent of the houses were provided with

woodsheds, 11 per cent had only wood-piles, while in 6 per cent the firewood was kept in the cellar. The distance from the wood supply to the kitchen door varied from 2 to 120 feet, with an average of 18 feet. When the stove was across the kitchen from the door, as it frequently was, the actual distance for carrying the wood was that much longer.

Screens. Reports on the screening of windows and doors showed that in practically all the houses the kitchen windows were screened and in most cases also the other windows which were frequently opened. In 63 houses all the windows were at least partially screened. All kitchen doors were screened and most of the other outer doors. Twenty-three houses had screened porches.

Lights. Of the 91 farm homes, 80 used ordinary kerosene lamps and seven acetylene gas. There was one house in which kerosene with mantle burners was used, one equipped with blau gas, one with a gasoline system, and one with electricity from a town plant. In one of the areas studied electric current was carried past eight of the houses but was not used in any of them. It could probably be obtained without difficulty in several others as well.

Arrangements for heating and cooking. The installation of better methods of heating seemed to be progressing more rapidly than that of lighting, as was shown by the fact that 18 per cent of the houses surveyed had furnaces. Of this number, one-fourth were hot water, and three-fourths hot air. Forty-eight per cent of the houses had wood stoves only, 14 per cent coal stoves only, 9 per cent both kinds of stoves, and 11 per cent stoves which burn either. Four homes reported the use of oil heaters. The averge number of heating stoves per home (excluding the homes heated by furnace) was 1.69.

Eighty-eight per cent of the housekeepers used wood for cooking, 12 per cent wood and coal, and 1 used coal alone. Seventy-four per cent also used some kind of oil or gas stove; over half of these burned kerosene, and about one-fifth gasoline. Acetylene, which was just coming into use in one community, was used for cooking by two housekeepers.

The fact that for most of the farm homes wood could be obtained from the farm woodlot probably explains why so many farms used it for both heating and cooking.

Water supply and sewerage. Driven wells were found on 89 per cent of these farm homes and open or dug wells on the remainder. Eighty-nine per cent reported cisterns also.

In all but four cases there was water within ten feet of the kitchen door and on 55 per cent of the farms there was cistern water in the house.

In all cases the water was pumped either by hand or by power. There were 33 farms equipped with windmills or gasoline motors, but only 10 of these had running water in the house. But it may be mentioned that 12 others had in the house a pump with soft cistern water.

In 60 per cent of the houses there were kitchen sinks, in 12 per cent bathtubs, in 7 per cent hot water boilers, and in 10 per cent water-closets. Seven per cent had separate bath rooms equipped with tub, hot water, and closet.

A septic tank or cess pool was found in 22 per cent, leaving 78 per cent in which waste water was emptied on the surface of the back yard. About one quarter of the kitchen sinks drained into a removable pail. Ninety per cent of the houses used privies of which about one-seventh had removable receptacles or walled vaults.

Desire for modern improvements. The term "modern improvements" was used to cover running water, hot water, set bathtub, some system of sewerage, gas and electric lights, and furnace. Only 2 of the 91 houses visited were equipped with all of these; 26 had some and needed others; and, in 4, plans had already been made for installing certain ones. All but nine of the housekeepers visited were eager for improvements. The form most generally desired was a good lighting system, next came a furnace, next a water system, next a bathtub, and last sewerage. A considerable number also wished additions and repairs to the house, new furnishings, and other conveniences. From the answers which the women gave to questions about modern improvements the observer was convinced that they saw the advantages but did not know what practical steps to take to introduce the changes into their particular houses with the money and labor which they could command. Permanent improvements were less likely to be made in the case of tenant farmers than where the families owned the place in which they lived.

Labor-saving devices. These last two points are emphasized by the fact that movable conveniences were relatively more common than improvements in the houses themselves. For example, 67 per cent of these farm housekeepers used washing machines, and 43 per cent vacuum cleaners, 14 per cent used self-heated irons, 11 per cent fireless cookers, and 15 per cent refrigerators. Telephones were installed in 49 per cent of the houses, an unusually low figure for such districts, and due probably to a disagreement between two companies operating in the neighborhood. All who needed churns and all but 10 per cent of those who could make use of separators had them.

Size and character of families. The number of persons making up a family often varied at different times, but the average for the year was 4.1. The average number of children under 14 years of age was approximately 1.1 per family. About 20 per cent of the families included no children, and 25 per cent none under 14 years of age; about 36 per cent had only one child; 12 per cent had four or more children; and none had more than six. Twenty-five per cent of all the children were under 6 years of age, and about 40 per cent were between 6 and 14.

The adults in the family frequently included married children, parents, or other elderly relatives. Nine families also reported boarders for part of the year. These were usually school-teachers and hired hands who were boarded for the landlord or neighbors. The hired help employed on the farm was usually lodged and fed at the farm home when hired by the month; for day help, dinners or dinners and suppers were ordinarily furnished.

Health. Although 11 per cent of the families lost no time and reported no expense on account of illness, the average number of days per year lost was found to be 38.8 per family, or 10 days per person. Nearly 40 per cent of this was among elderly persons who did no regular farm or housework; another 40 per cent among the workers, and 20 per cent among the children. The housekeepers themselves lost, on the average, 8.3 days. No account was kept of the extra help hired or extra work performed on account of illness. In the few instances of severe illness occurring among these families the patients were cared for in hospitals. The annual money loss occasioned by illness was estimated as $31.20 per family, a sum found by adding the cost of physician's services and medicines to the money value of time lost as reckoned at current wages for farm hands and hired girls. Had physicians been consulted often in chronic cases, the amount would have been much larger, as the days of illness in 5 such cases amounted to 1241 in a year.

Household help. Among the women questioned, 11 per cent had no help in the household work, 69 per cent had help from the family, 10 per cent had hired help for a considerable part of the year, and 10 per cent for a month or less during the busiest season.

Whenever help was employed, it was required by some special condition, such as illness, an unusually large family, or extra work. In none of these farm homes was such expense incurred as a matter of luxury. The hired girls received, in addition to board and room, weekly wages varying from $2.25 to $6.00, and averaging $3.87. Laundry work was

usually included among their duties. Women hired by the day were paid at a slightly higher rate.

The kind and amount of help received from members of the family varied greatly. Other women in the household were the most important and most continuous source of such assistance, but in one-sixth of the farm families the men carried wood and water, turned the washing machine, or did other heavier pieces of work, and often the children aided regularly, especially during school vacations. The returns which a housekeeper secures from the help at her disposal appear from these records to be one of the best tests of her ability as a manager.

Length of working day. The only feasible method of measuring the working time of these women was to subtract the hours spent in leisure and for personal affairs from the total number of hours between getting up and going to bed. Since the women were on duty when meals were being served, this time was included in the hours of work. The hour of beginning work in the morning varied in summer from 4:00 to 7:00 o'clock, with the average at 5:05 a.m. In the winter the range was from 5:00 to 8:00 with the average at 6:17 a. m. The hour of ending work in summer was from 6:00 to 10:00 o'clock in the evening, with the average at 7:44 p.m. Corresponding hours for winter were 5:00 to 10:00 with the average at 6:53 p.m. The average length of the working day was just over 13 hours in summer and 10 hours in winter, or 11½ hours for the entire year. The average time for leisure and personal affairs was 1½ hours in summer and 2½ hours in winter, or 2 hours a day for the entire year.

Nineteen of the 91 women reported that they had no leisure in summer and only one hour of free time daily, on the average, in winter. On comparing the details of their records with those of their 72 less driven neighbors, it appears that the differences were due not so much to larger families, more small children, or poorer house arrangement and equipment as to more sickness in the family, more sewing done at home, and especially to less help, both from the family and hired, and also to helping more with the dairy, poultry, field work, and chores. Of course, the time spent at table or sewing does not represent fatiguing work, and would perhaps be considered as time off by some women, but on the other hand it does not leave the housewife free from immediate responsibility of getting a certain task done. It cannot be a desirable condition in which one-fifth of the women in a community say there is no time during the day in which they can drop this active responsibility.

Time spent on special kinds of work. It would have been interesting to study the distribution of the housekeeper's time among all the phases of her work, as was done in a previous study,[2] but in the present case this was impossible and special records were confined to dairy, poultry, garden, and laundry work. Among the 91 housekeepers, dairy work (including butter-making) consumed, on the average, 49 minutes a day, garden work 21 minutes, and poultry work 43 minutes. Of course, these periods were much longer at certain seasons, such as the hatching period for poultry, but, taking the year through, an average of 1 hour and 52 minutes a day was spent on these extra-household activities. Laundry work required an average of 62 minutes a day or about $7\frac{1}{4}$ hours a week. With the average working day $11\frac{1}{2}$ hours long, $8\frac{1}{2}$ hours appear to have been given to the regular household tasks, such as preparing and serving food, keeping the house in order, caring for children, and mending, and for such occasional work as making garments, caring for the sick, and helping out with field work in times of emergency.

Social and community life. The replies to questions on this point indicate that few of the women made much systematic effort to develop social life in the home by means of music, games, or conversation on subjects of general interest. Seventy per cent of the women said that some time was spent in such recreation, usually in winter evenings, but the impression given was that they had thought little of its significance as a means of making the home life more interesting and attractive.

There was considerable social intercourse with the neighbors and the community. Aside from weekly or more frequent trips to town, practically all the women exchanged calls with their neighbors, the visits received averaging about one in 3 or 4 days and those paid about one in 9 days. The number of parties attended varied from none to 35 a year, with an average of three. Picnics were less popular, averaging only about one a year, though three women went to about eleven each. The average attendance at "movies" was 15 performances a year, but the figures varied with the locality. The largest attendance was in a district where there was a community "movie" in which the local people were stockholders, and here the farm women attended, on the average, 32 performances a year. In another district where there was an ordinary commercial motion-picture house, the farm women attended eight times a year. The average number of lectures attended was four, and nearly

[2] Jour. Home Econ. 7 (1915), No. 7, pp. 348–353.

half of the women reported not going at all. This was often due to a lack of lectures to attend. On the average, farm women were away from home for business and pleasure 3 times a week.

Another form of social life is furnished by societies and clubs. In this study, attendance at a particular church was considered as membership in an organization. Twenty-two per cent of the women did not belong to any organization, 33 per cent belonged to one only, 15 per cent to two, and 30 to three or more, one woman belonging to seven. The most general membership was in church, next came the aid society, the grange and gleaners, social clubs, women's clubs, lodges, and a variety of organizations, such as sewing clubs, temperance societies, and Red Cross chapters.

While the women replied readily to the question of improvements desired in the homes, they hesitated when asked about possible community improvements. Their apparent indifference is shown by the fact that 41 per cent replied they did not desire any. Six others said they went to town for their social life and so were not interested in local improvements, and they seemed to feel no more responsibility for what the town offered than for conditions nearer home. Twenty-one per cent expressed a desire for more and better social life, 5 wishing for a woman's club in addition to the lodges and granges, 19 per cent felt the need of better roads, although not half this number had automobiles. Seventeen per cent wished improvements in the schools, 6 suggesting better buildings, 4 better teachers, and various individuals better ventilation, or more attractive appearance in the buildings or grounds. Only two mentioned the advantages of consolidated schools. Seven per cent wished for church improvements, the majority of these desiring a church building of their own denomination as near as possible to their homes. The possibilities of a consolidated church were even further from their vision than those of a consolidated school. Other desires were for more attractive home grounds, a community house, a library, a community laundry, a rest room at the trading center, and better markets.

Income and expenditures. Few families kept household accounts, and exact information regarding the economic conditions of the families was seldom available. In no case did a housewife use accounts as the basis for improving her household management, though several expressed satisfaction in knowing exactly how much money had been received for poultry and eggs and how much had been spent for food, clothing, and other household supplies. Women who did not keep accounts could

usually tell how much money they spent weekly or monthly for the different articles of food; they could also tell the number and cost of various garments purchased, and so estimate the yearly totals. Only six women reported having a separate bank account for household purposes, but a few others approved of such an arrangement.

In 90 per cent of the farms of the present study which reported on the sale of eggs, poultry, and dairy products, the income from these sources was considered as belonging distinctly to the home. It was not possible to secure exact figures, but the average was probably about $240 a year, poultry and eggs bringing in slightly more than dairy products. Some women said the poultry and egg and butter money always paid for groceries, others that it also bought the less expensive articles of clothing.

As nearly as could be estimated, the average amount spent annually for food was $36 per person, or $105 per family. Of this, about 14 per cent went for meat, 32 per cent for cereal products, 8 per cent for cooking and table fats, 18 per cent for sugar, 21 per cent for tea, coffee, cocoa, and postum, 7 per cent for fruits and vegetables. Only a few families bought all their meat, but the majority bought what beef they used. Dairy products were supplied by the farm except that, when milk or cream was sold to a creamery, butter was often bought, usually at the creamery. Wheat grown on the farm was sometimes exchanged for flour at the local mill. The chief vegetables purchased were potatoes and canned goods. Fruits were rarely bought except for canning.

The average amount spent for clothing per family per year was estimated at about $115. The average amount spent per person was about $32, but this sum varied according to the individuals, being $16 for children under 6 years, $38 for children from 6 to 14, $46 for children over 14, $47 for men, and $51 for women. A detailed study of the records shows that whatever the total sum spent by the family for clothing, the amount spent per person tends to grow smaller as the number of persons in the family increases. This is doubtless due in part to the practice of making over garments for children. These clothing estimates do not include the value of the time spent by the women of the family in sewing. The amount paid for hired sewing was very small, averaging only $4.55 per family per year.

Estimates for the cost of coal and wood averaged $39 (about $\frac{1}{3}$ of which was for coal), and $6 for oil which was used about equally for cooking and lighting. One third of the families did not buy wood, as this was furnished by the farm.

Other expenditures averaged as follows: doctors fees and medicines, $21; reading matter, $9; wages of hired girl, $6; railway fares, $1.50.

The total expenditures of these farm homes as thus estimated average about $300, or $60 more than was received from the sale of poultry, eggs, and dairy prodcts. In other words, 80 per cent of these expenditures for the farm family were met by the extra household activities of the housekeepers, leaving only 20 per cent to be contributed from the proceeds of the principal products of the farm.

Such figures do not indicate the actual value of the supplies used by the farm families. They do not, for example, take into account the food and wood provided by the farm, the cost of feed for poultry and cows, the value of the unpaid time given to making clothing, or various other items which must be considered in analyzing the contributions made by the different lines of work to the farm home. They do, however, indicate that the farm housewives make a large contribution to the economic support of the family as well as to its comfort and well-being.

POPULARIZING FOOD FACTS IN A DEPARTMENT STORE LUNCH ROOM

HELEN FERRIS[1]

"We must devise some plan by which we can call attention in our lunch room to the importance of choosing one's lunch wisely. Many of the lunches that are being selected are far from wise."

It was the manager of a large department store who was speaking to a committee called together to consider this food question. At once, there was an objection.

"You can never make people eat what they do not wish to."

"No, not that. But can we not attract them to certain dishes? That is the way in which I should like to see some plan tried."

[1] Miss Ferris was for six years connected with the Educational Department at John Wannamaker's. She is the author of "Girls Clubs" and "Producing Amateur Entertainments."

The employees' lunch room was large and commodious, the food served cafeteria style. How could the hundreds of women and girls, men and boys be "attracted" to milk, for example, instead of coffee, if they were accustomed to coffee?

That was the problem: to make some plan that was attractive. The following was at last evolved.

The committee decided to conduct a Food Week Campaign, in the lunch room itself. Around the walls, were to be hung special food posters. Practical, informing posters? Yes, but posters on which the scientific information would be given in the advertising department's most sprightly style, with clever pictures drawn by the advertising artists. In this poster exhibit was to be included a display of the U. S. Government food pamphlets. Beneath these, a table at which a young woman would take the names and addresses of all who wished to obtain copies of those pamphlets.

In the center of the room, there was to be a table especially reserved for a "diet squad." These were to be ten store people who would volunteer to eat, for one week, the lunches selected for them. An important factor here was that each one of the diet squad was to receive his or her lunches free. (No trouble in securing volunteers!) The lunches served to the squad were to be selected for them by a dietitian, all dishes being on the a la carte menu of the lunch room.

Most important of all was to be the daily "special": some desirable dish offered at a reduced rate. Whoever refused a bargain?

It was decided, also, to push some book during the week. The book selected was "How to Live" by Fisher and Fisk. Paper-bound copies of this book were to be on sale in the lunch room. Other copies for which people could "sign up" were to be put into the store library.

Food week started auspiciously. As the employees entered the lunch room, they were confronted with a huge sign:

THIS IS FOOD WEEK. EAT THE SPECIALS. THEY ARE CHEAP.
TODAY—RICE. AN ENERGY-GIVING FOOD

RICE IS CHEAP. RICE IS EASILY COOKED. RICE IS EASILY DIGESTED.
RICE MAY BE SUBSTITUTED FOR POTATOES

The price was also posted; the reduction, evident. As the people went into the lunch room, they eagerly read the posters. The following give an idea of the methods of presentation.

ENERGY
EAT FOR ECONOMY
EFFICIENCY

EVERY DAY THIS WEEK
We will post here
A SPECIAL
because it's
'SPECIALLY GOOD FOR YOU!

CALORIES! CALORIES!
DO YOU KNOW WHAT THEY ARE??
IF YOU DON'T YOU SHOULD!
IF YOU DON'T YOU CAN
FIND OUT IN OUR DISCUSSION CLASS.

Sign Below

FREE! FREE!! FREE!!!
THE
U. S. GOVERNMENT FOOD PAMPHLETS
NO HOME SHOULD BE WITHOUT THEM!

WHY SCORN THE HUMBLE PRUNE?

EAT FRUIT!
Because in fruit are acids
necessary for
HEALTH.

Obey that impulse—Eat Fruit with your lunch every day!

TAKE.....YOUR.....TIME

There is a young man I have passed
Who has hurried through meals so fast,
But he says, now, you know,
"I'd better go slow,
"For I want my digestion to last."

MR. GROUCH
COMES TO THE TABLE CROSS.
THEN
HE WONDERS WHY HE HAS INDIGESTION!
Moral: Do not GROUCH, especially at meals.

A spirit of jollity at once spread about. The pictures of Mr. Grouch and the Young Man in a Hurry were most amusing. People began the first day to sign for the "free" Government pamphlets. By the second and third lunch hour relays, news of the special had gone around and the consumption of rice increased above the average daily demand. The diet squad was a center of attraction. They at once renamed themselves "The Dietetic Pioneers" and solemnly signed a pledge, drawn up by the manager, "not to do any surreptitious nibbling on the side."

The specials, offered at reduced rates for the rest of the week were: corn meal muffins; milk; apples or prunes; fish ("Eat Fish! Get in the Swim"); bean soup ("The Bean is one of our cheapest and most valuable food-stuffs").

The sale of items suggested for the diet squad menu increased as the week advanced. Each day's diet squad menu was posted beside the general menu of the cafeteria, with posters saying why each article of food had been selected by the dietitian. The day the corn meal muffins were on sale, the supply did not equal the demand by several dozen.

During one lunch hour, a small leaflet (of a size to fit into a pocket or pocketbook) was distributed to all. The heading was: "One Day A Pretty Girl sat Talking to a Friend in the Lunch Room." The conversa-

tion naturally centered around the question of a good complexion and how to secure it. They discussed the matter of lunches, and decided forthwith to read, "How to Live." The demand for that book in the store library at once made itself felt.

At the end of the week, the dietetic pioneers submitted the following report:

"After a week of dieting, we appear to be in good health and not too ravenously hungry. We have learned many things about the choice of food, and think that in the future we shall all choose our foods more wisely. We have been interested in the charts and the pamphlets showing the food values of vegetables, meat, and fruit.

"Each one of us is sorry that the week is over; even the man who is used to having coffee every lunch time will say on Monday, 'I wish I were back at the table with the dietetic pioneers.'"

What did this Food Week accomplish? Results in such an experiment are difficult to calculate. The committee in charge felt that the results in this instance were of two kinds. First, there were the results of the posters, the posted diet squad menus, the specials, and the circulars. For six consecutive days, the attention of hundreds had been called to the importance of a wise selection of food, to the relation of a choice of food to health. "You live by what you digest not by what you eat." Results of this kind are intangible. Yet we of today have a firm belief in the potency of the right kind of publicity, the publicity that is based upon scientific fact. (Witness the splendid results of the Child Health Organization with its popularized scientific methods.)

The other, more tangible results of the work were listed by the committee as follows: Over seven hundred government bulletins were sent for. Many purchased copies of "How to Live." The library copies of the same book were in great demand, as was "Feeding the Family" by Rose. A small discussion group of twelve met regularly until every chapter of "How to Live" had been discussed. The discussion was led by a teacher of the store school. A month after Food Week, the director of the lunch room reported that the demand for the specials was still greater than the demand had been for the same dishes before Food Week, especially for corn meal muffins. The dietetic pioneers continued to bring in newspaper or magazine articles on food. This showed that, in this group at least, a definite interest in food values had been aroused.

The committee strongly felt that the real dietetic pioneers were the advertising copy-writers and artists who had so colorfully presented food facts.

STAND BEHIND THE FESS AMENDMENT

A bill to help women make better homes for children and grown-ups, young and old—that is the Fess Home Economics Amendment. A survey of the legislative history of this measure shows it gradually moving forward to its place as a law on the nation's statutes.

The bill was introduced in the Sixty-sixth Congress as H.R. 12078 on January 26, 1920; it had a hearing before the Committee on Education of the House of Representatives on February 4, 1921; and was reintroduced on April 11 in the special session of the Sixty-seventh Congress as H. R. 21 and again referred to the House Committee on Education, of which the Hon. Simeon D. Fess of Ohio is chairman.

This special session of Congress was called for the definite purpose of considering emergency and appropriation measures, matters of tariff and taxation, and had a nervous undercurrent of feeling that the country should enter upon no legislation entailing great outlay of money unless such outlay seemed a matter of immediate necessity. Mr. Fess, staunch in his support of the measure but with a statesman's sense of the unpropitious moment, seemed to feel that the time was not favorable for pressing any action. However, he advised the supporters of the bill to continue with their educational campaign.

The members of the American Home Economics Association are particularly fitted for this educational work, since they can give expert testimony as to the value of the work to be accomplished. They must continue all measures which will make known the provisions of the bill and their purport. They must work for two definite ends. First, they must endeavor to make sure that every member of the House Education Committee fully realizes that an understanding public is anxious for the enactment of this law. Second, when the bill is reported out of committee favorably and is brought up on the floor of the House in December, every Congressman must have been reached by you in such a way that he will realize that the passage of the bill will benefit his constituents and the nation at large.

FOR THE HOMEMAKER

USE OF THE PRESSURE COOKER IN THE HOME

MINNA C. DENTON

Experimental Kitchen, Office of Home Economics, U. S. Department of Agriculture

One of the main points in favor of the steam pressure cooker in the home is its usefulness in canning. There is more or less uncertainty concerning the keeping quality of vegetables and meat canned by water-bath methods, particularly in those climates where high temperatures and high humidity combine to encourage an abundant flora of resistant bacteria. When there is no storage place for the canned goods other than one which is liable to maintain temperatures between 80° or 90° to 100°F. for days or weeks at a time during both day and night, the difficulties of water-bath canning of vegetables and meat apparently are greatly increased, and the steam pressure cooker presents the most practical method of solving the problem, which has so far attained any considerable vogue.

Data showing the rate at which heat penetrates vegetables and fruits while processing, under different conditions, are now being collected in several laboratories. One of these laboratories has already published a paper.[1] Our own laboratory has a paper on this subject which is ready for publication.[2]

But the pressure cooker has, of course, other possibilities of usefulness in the household, apart from the opportunities of the canning season. One of these is the saving of time and fuel in the cooking of the coarse or tough cuts of meat.

The effect of heat on meat proteins is usually described under two different headings:

[1] Heat Penetration in Processing Canned Foods. Research Laboratory, National Canners Association, Washington, D. C.

[2] See also What Temperature is Reached Inside the Jar During Home Canning. Minna C. Denton, *Jour. Home Econ.*, Dec., 1918.

1. Moist heat softens and gelatinizes certain proteins found in the connective tissue fibers which bind together the muscular fibers. It is the muscular fibers which constitute most of the red parts of meat, or the greater part of the tissue of "white meat" (pale muscle fibers), or the dark portions of dark meat such as is found in the breast of certain game birds. The connective tissue proteins are always cooked in moist heat if the meat is properly handled; in the case of roasted meat, they cook in the juices of the meat tissue. At least one of the reasons why tough meat requires a longer time to cook than does tender meat is the fact that it contains a larger amount of connective tissue, which therefore requires the application of heat for a considerable period; possibly also, additional water to assist in the process of hydrolysis. Overcooking of this gelatinous connective tissue, in the absence of a sufficient amount of moisture, does in the end harden it, after the intermediate state in which it exists as a soft jelly has been passed.

2. The effect of heat (whether moist or dry) upon certain other proteins, viz., upon some of those contained in the muscular fibers or meat fibers, is different from that described above. It results in the rapid separation of a considerable part of the moisture of the juice present in the muscular fiber from its protein framework, consequently the thoroughly cooked muscle fiber shrinks, dries, and hardens. This drying effect is much more noticeable in long-boiled meat than in properly roasted or broiled meat, the boiled meat being invariably harder and drier—after it has been taken out of the broth in which it was cooked, and has been cooled—than is the case with the inner tissue of meat which has been successfully roasted.

The problems of meat cookery in the pressure cooker, then, are those incident to finding the proper length of time for which a piece of meat of given size, shape, and toughness, needs to be cooked at any given set of temperature and moisture conditions. Two of the chief factors to be considered are the rate at which heat penetrates to the center of the piece of meat, and the amount of heat necessary to soften the connective tissue fibers. If this necessary amount of heat is considerable, so that cooking must be long continued, then, of course, it cannot be expected that the meat fibers will remain (or perhaps it would be better to say, will *become*) as juicy and tender as would otherwise be the case.

If the meat which has been cooked in the pressure cooker is tough, or hard and dry, it is because either (1) it has not had sufficient time or a sufficient degree of heat and moisture to soften the connective tissue pro-

teins, or (2) because it has had too much heat, and consequently some of the meat proteins have become shrivelled and hard.

It is easier to succeed with meat cookery in the pressure cooker if the meat is cut into rather small pieces than if it be in one large piece; because in the former instance heat can be applied for a shorter time, consequently with less danger of rendering the outer parts of the meat tough or hard and dry before the inner parts are completely cooked. However, if the meat be from a carcass of high grade, there should be no difficulty in cooking a pot roast of several pounds, or a good-sized fowl, without cutting it into pieces.

It is sometimes asserted that to cook meat in a pressure cooker controverts all the principles of protein cookery, whose chief postulate is that proteins become tough, hard, unattractive, and less digestible when subjected to the influence of high temperature. This postulate assumes, however, that the protein is actually subjected to the given temperature throughout its mass; whereas, in pressure cookery of meat, the art of proper cooking is to apply the high temperature only long enough to secure penetration of a very moderate degree (or amount) of heat to the center of the meat. For example, in canning chicken (cut into pieces as usual, i.e., breast, leg, thighs, etc.) in a pint jar, at a pressure of 15 pounds (retort temperature 120°C.), it takes about 40 minutes for the temperature in the center of the jar to reach the boiling point, and about 60 minutes for it to reach the temperature of the steam in the cooker. Our experience is that the chicken is usually "done" at the end of 30 minutes at 15 pounds, or at least it is done by the time the pressure has fallen to the zero point and the jar is ready to be taken out.[3] However, it is conceivable that the effect of a rapid application of heat, such as brings the meat from a temperature of 20°C. to 120°C. in 60 minutes, is less detrimental to texture and nutritive properties (e.g. vitamines), than would be three hours' cooking at the boiling point.

Stews and boiled meats which are cooked in the pressure cooker, often have a richer flavor than do those cooked over the ordinary gas stove. Whether this is the case or not, depends upon the skill with which the operator has gauged the length and temperature of the cooking process, also the amount of water used, with regard to the size and shape of the pieces of meat. The length of time required for heating before the

[3] This does not mean that we recommend 30 minutes as a sufficient processing period in canning chicken at 15 pounds pressure. As a matter of fact, we consider that a process of 60 minutes is much safer. It results in an attractive and palatable product, provided the meat continues to cook in its own rich juices and fat.

steam reaches the desired pressure, and that required before the pressure falls to the zero point, must be taken into account, since the cooking proceeds through all three of these periods, which vary somewhat in length with different cookers and different methods of applying heat to them.

It is a most difficult matter to give time tables for the cooking of meats in the pressure cooker, which will fit all possible cases equally well; for the time required for cooking depends, not only upon the weight and size of the piece of meat to be cooked, but also upon the shape of the piece, the amount of bone contained, and the texture of the meat. A 7-pound pot roast, which consists of the shoulder clod of a rather old animal, and which has been boned and rolled and tied to make a compact piece, may require 15 minutes to the pound, at 15 or 20 pounds pressure. On the other hand, a leg of lamb of very nearly the same weight may be perfectly done in less than half of that time, at the same pressure. "From 10 to 15 minutes per pound, when tough meat is in a thick compact mass" is about as safe a rule as can be hazarded by the present author, at the moment. However, meat which is cut into pieces (chicken, beef stew) is not timed by the pound, but by its toughness; 30 to 50 minutes is the usual rule.

Care should always be taken, not to cook longer than is really necessary, since flavor and juiciness are sacrificed as the cooking period advances, even when the meat is not allowed to become hard or dry.

Batters and doughs present special difficulties when cooked under steam pressure; since the extra pressure on their outer surface interferes with the expansion of gas generated from baking powder or from soda and acid. We should of course expect exactly this result, just as we expect to use less baking powder in a high altitude where the external pressure is lower than usual.

When expansion does not take place to the requisite degree during the earlier stages of the cooking or baking of a batter or dough, and when the gluten in consequence begins to "set" or "bake" or "crust" or "harden" before it has been properly expanded, the result is toughness and sogginess or heaviness. This is exactly the result which we get when we put a steamed pudding into the pressure cooker and run it at a pressure of 15 or 20 pounds. If the pressure cooker is to be used for such a purpose, it is better to divide the pudding into small portions (e.g., as individual molds), in order to get a more rapid heat penetration and more rapid expansion, and thus be able to reduce the time of cooking materially. It is better also, during the first part of the cooking period to keep the pet cock wide open, and even to prop the cover up so that it fits loosely in

order that the rate of cooking be not too rapid at first. When the pudding is well risen the lid may be clamped down and the pressure brought very gradually and slowly to 15 pounds for 10 or 15 minutes, in order to develop the "brown" or "baked" flavor due to the use of the higher temperature, and in order to finish the cooking process as rapidly as possible, and thus save time and fuel.

Dried fruits, too, can be successfully cooked in the pressure cooker, although as a rule they are more easily and satisfactorily cooked at low temperatures where there is no possibility of developing caramel-like flavor, and where the water is gradually absorbed before the effect of heat becomes marked. Even 5 to 10 minutes at 5 pounds pressure will often over cook the fruit—especially if the cooking vessel contains only a small amount of fruit—making it mushy and extracting a large part of its flavor into the juice, rather than preserving it in the fruit.

Strong-flavored vegetables such as cabbage and onions may be cooked in steam under pressure, with a fair degree of success, if cooked under water, very rapidly, and not too long. To this end, they should be cut into rather thin slices, well covered with boiling water, and processed for as short a time as possible. It is often the case, that 8 or 9 minutes is long enough even for cabbage.

The pressure cooker, then, is best suited to the cooking of tough meats, many cereal preparations (not most batters and doughs), dried legumes, and vegetables of mild flavor.

The pressure cooker can, of course, be used for the extraction of fruit juices for the making of jelly by ordinary methods, provided that pains be taken not to over cook the fruit and thus injure the pectin. In case of very hard fruit or vegetable tissues, extraction in the pressure cooker may sometimes result in a richer juice which will produce a larger yield of jelly, than when the fruit is cooked at the boiling point. Some experience is needed, however, in order to gauge correctly the time needed at any given temperature for penetration of heat to the center of the mass of the various amounts of fruit and water that might be used, and that needed to produce exactly the proper degree of "cook" for each kind of fruit. Directions can hardly be given offhand, as the length of cooking period depends, not only upon the kind of fruit, but also upon its hardness, ripeness, juiciness, pectin content, acid and sugar content, the amount of water used with it, the number of pounds being cooked at one time, and other factors.

SUGGESTIONS FOR THE COLLECTION OF A BIBLIOGRAPHY

The manufacturers of pressure cookers issue cookbooks with rather full instructions. Some of the latest of these books give suggestions for the treatment of steamed puddings and strong-juiced vegetables, which are designed to overcome the usual difficulties experienced in cooking them under steam pressure, including some of the points mentioned above.

Several of the home economics extension departments of agricultural colleges have issued leaflets containing helpful suggestions for the use of the pressure cooker in the home. Several which happen to be in my possession are: Steam Pressure Cooking for the Home, Nell M. Barnett and Elva V. Akin, Iowa State College, Ames, Iowa; The Pressure Cooker, Sarah L. Lewis, Oregon Agricultural College, Corvallis, Oregon; Steam Pressure for Home Cooking, Alice E. Skinner and Ida E. Rigney, State Agricultural College, Manhattan, Kansas; and Cooking with Steam Pressure in the Home, Mary B. Richardson, New Mexico College of Agriculture, State College, N. M.

A number of articles have appeared in different periodicals which use household recipes. An article by Crissey in the *Saturday Evening Post*, March 14, 1914, reports that experimental work has been done which shows that fruits cooked by steam pressure will make 15 to 25 per cent more jelly than when cooked as usual in a kettle or double boiler. An article by Grace Gordon Hood in the JOURNAL, August–September, 1915, contrasts the pressure cooker with the fireless cooker, and brings out some of the same points as those mentioned above.

JELLIED GRAPEFRUIT PEEL OR ORANGE PEEL

FANNY WALKER YEATMAN

Experimental Kitchen, Office of Home Economics, United States Department of Agriculture

The chief merit of the following recipe lies in the fact that the product has the consistency of jelly rather than that of hard candy.

Peel from a good sized grapefruit	138 or 140 gms. or about 5 oz.
1 cup sugar for making sirup	200 gms. or about 7 oz.
⅔ cup water (nearly)	150 cc. or about 5½ oz.
½ cup of sugar for rolling strips	100 gms. or about 3½ oz.
¼ teaspoon salt (approximately)	2 gms.

Select light colored, heavy, smooth-skinned grapefruit or oranges which have a thick soft peel free from blemishes.

Cut into strips about $\frac{1}{4}$ to $\frac{1}{2}$ inch wide. Cook in 1 quart of water for $\frac{1}{2}$ hour. Repeat this three times, discarding the water after each cooking. The strips should then be tender, and must be handled gently to keep from breaking them.

Place in a small sauce pan (about 6 inches in diameter) the water and sugar and stir until the sugar is dissolved, then add the strips of grapefruit or orange peel and place the pan over the flame. Allow the contents of the pan to come to the boiling point, and cook rapidly for about 20 minutes, then place an asbestos mat under the pan and continue the boiling about 20 minutes longer, or until the sirup is all absorbed by the peel. Great care must be taken at this point that the sirup does not scorch; the strips of peel must be turned frequently. Use a fork in turning the strips and in removing them from the pan.

Place the peel on waxed paper until cool and then roll in granulated sugar. Use the flat side of a knife in rolling the strips. Let the strips dry out for an hour or two, then wrap in waxed paper and keep in tightly covered tin containers until used. This confection should keep in good condition for two or three weeks, in moderate weather.

The amounts of ingredients mentioned above usually make about 13 ounces of candied or jellied peel.

When the recipe given above is doubled it is necessary to cook the strips about 20 minutes longer, before the sirup is absorbed. When the amounts of peel and sugar are multiplied by four, increase the water, used in parboiling, only enough to cover the fruit well. When making the sirup, use 4 times as much sugar but only twice as much water. The length of time required for cooking will then be about 60 minutes, under the conditions described above.

The final product should be tender, jelly-like, and translucent; the skin should be soft. The pieces should be thick and juicy, not shrunken nor gummy. The outer coating should consist of distinct crystals, and should not "cake" or form a crust.

Showing the citrus growers of California how to make candy, chemicals, marmalade, and vinegar out of the lemons, oranges, and grapefruit that were formerly wasted has been the job of the Citrus By-Products Laboratory of the U. S. Department of Agriculture in Los Angeles.

A HOSIERY GUIDE FOR THE SHOPPER

ELLEN MILLER

The Merrill-Palmer School, Detroit

The shopper may have a definite idea of the kind of hosiery she wishes to buy, and yet fail to find it because she does not ask for it in correct terms. Or she may know the trade names without knowing the relation of the manufacturing process to the durability or appearance of the finished product. This list of hosiery terms with their definitions may help her to decide what she wants and to find it.

DEFINITIONS USED IN MANUFACTURE AND SALE

Cut hosiery. The material is woven in a long tube. It is then cut into lengths; the feet are cut and sewed on sewing machines. This cheap type of hosiery is almost obsolete.

Seamless hose. Any stocking knitted in a tubular form so that no seams are necessary.

Shaped hose. Hosiery that is knitted with a straight tubular leg and then stretched and pressed to shape in the finishing processes. Sometimes the stitch is made looser in the upper part of the leg to allow greater elasticity. This process of shaping generally determines the size of seamless hosiery, and explians the bagginess and the shortness of the foot after laundering. Cheapest type in common use.

Fashioned hose. Seamless hose knitted on a machine which shapes the garment by controlling the number of stitches. Distinguished by dart or gusset in calf of leg.

Full-fashioned hose. Knitted flat. They are shaped by controlling the number of stitches in leg, heel, instep, and toe, and are finally stitched from the tip of the toe to the top of the stocking. This is the best fitting and also the most expensive type of hose.

Mock-seam hose. This type of garment is knitted tubularly and then seamed down the back of the leg. This process, while it does not fashion the garment, imitates the effect of a more expensive type of stocking.

Looping. Loose, elastic finish which closes the tip of the toe and the bottom of the heel of a full-fashioned hose and of some seamless hose. It may or may not be of the same color as the hose.

Boarding. The process of shaping the finished hosiery by stretching over shaped boards, steaming, and drying. This is the process which

determines the shape and size of a "shaped" stocking and accentuates the shape of a fashioned or full-fashioned hose.

Split-foot. Foot made with a different material in the upper portion from that used in the sole. This was originally a white sole.

Lisle. Cotton yarn made by doubling together two threads, one spun with a right-hand and the other a left-hand twist. Firm, hard-wearing yarn.

Mercerized yarn. Yarn subjected to an alkaline bath and dried under tension. Mercerized yarn is more lustrous and has a greater affinity for dyes than yarn not so treated.

Gassing. Process of singeing the fuzzy ends from the surface of a mercerized yarn, thus leaving it smooth and lustrous.

Dipped silk hose. Hose knitted from undyed yarn and dyed after manufacture is complete—may be of silk; silk and cotton; or of silk, fiber silk, and cotton mixture. Not heavily loaded.

Ingrain hose. Dyed in the yarn. Heavily loaded. Lustrous and heavy. Durability varies greatly with individual who wears them and the care given them. Perspiration very injurious. Distinguished by looping, in heel and toe, of a color differing from the body of the garment.

Silk plated hose. Made of a two-thread yarn; the silk thread is thrown to the surface in knitting. Generally durable, although silk may rough up and wear off the surface.

Cashmere hose. Worsted yarn with a woolen finish. Fine ribbed, soft, and comparatively thin.

DOES NOT THIS APPLY TO ALL NATURAL RESOURCES?

"One who recklessly, defiantly, persistently, and continuously wastes natural gas, and boldly declares his purpose to continue to do so . . . . . ought not to complain of being branded as the enemy of mankind. . . . . It is not the use of unlimited quantities of gas that is prohibited, but it is the waste of it that is forbidden. The object and policy of that inhibition is to prevent, if possible, the exhaustion of the store house of nature, wherein is deposited an element that ministers more to the comfort, happiness, and well-being of society than any other of the bounties of the earth."—*Indiana Supreme Court.*

CHOOSING A WASHING MACHINE

Wherever two or three housekeepers are gathered together nowadays there is almost sure to be discussion pro and con of the various kinds of power washing machines. Though helpful to the woman who is about to buy a machine, such an experience meeting does not give her the complete information she needs to make her a competent judge of the various kinds as suited to her needs. Unfortunately the federal government and other disinterested agencies have not so far had the funds with which to make comparative tests of even the representative types of washing machines, and hence can not answer her questions from a basis of thorough-going research.

A group of Connecticut Grange women therefore decided to find out for themselves whether the electric-driven washing machine was economical and practicable for use in their community, where electricity costs 16 cents per kilowatt hour, and which of several makes would give best results. Arrangements were made with manufacturers whereby various types of machines were installed in homes and their efficiency scored by the committee on the following points: efficiency in washing; wear and tear on clothes; convenience of operation; durability; and cost of operation. Some of the machines were found so inefficient in cleaning clothes and to have such serious mechanical defects that they could hardly be called labor-saving devices, while others did their work thoroughly, quietly, and quickly. The highest score given by these Connecticut housekeepers to a machine was ninety-one.

This test was of course imperfect in many ways because conditions vary in different households and some women are much better mechanics than others. The results show, however, that the consumer need not necessarily accept the glowing statements of the advertiser of even so complicated a piece of household equipment as a power washing machine, but that groups of women can make practical tests which will aid them in selecting equipment from the bewildering array now on the market.

R. V. D.

EDITORIAL

Isabel Bevier. Anyone not in the family might think that the portrait which forms the frontispiece of this issue[1] belonged exclusively to the subject who furnished the inspiration and to the artist who was able to see the real concentrated essence of her and to record his vision in this enduring and endearing and marvelously beautiful form. But no, the whole home economics world is preening itself: she is ours. Ours from the time, more than 20 years ago, when she started the department of home economics at the University of Illinois, from the time, some years later, when Mrs. Richards told an anxious mother that the sanest course was at Illinois, to a recent meeting of the Association at which Dr. Langworthy expressed our united feelings in referring to her as the lady whom we all delight to honor and always miss when she is absent.

Perhaps no one has ever tried seriously to analyze Isabel Bevier. We are very proud of being really scientific in one part of our field, and really artistic in another. Here is an expression of the whole of us: an artistic analysis of our Dean. Louis Betts has looked beyond the teacher, beyond the executive, and has chosen, as he himself says, to portray the woman. The utter truth of this, which instantly strikes anyone who knows Miss Bevier well, stirs in one a new distrust of scientific analysis as an exclusive method of arriving at truth, a new realization of the need of striving for a vision of the whole of the object of one's observation; for how many people have been able to see clearly beyond the teacher, or the executive, whichever it was they came to know. And yet, one instantly feels, in looking at it, that this is the portrait of her very self, her essential sweetness, her utter lack of conceit, her real serenity, under all the vigor and vitality. One can even look deeper, and see something of the reason for the intensity with which she always attends to her "job."

Here's to her! May she long continue to stimulate and inspire us! And now that she has given up her particular, individual job, may she help us to see with clearer and larger vision our corporate job, to see how we may make home economics deliver its maximum contribution to the education of American women.

[1] The portrait of Isabel Bevier was presented to the University of Illinois, by the alumnae of the Department of Home Economics and friends, at the Recognition Service held May 20, 1921. It is printed through the courtesy of the committee on arrangements. Copies in color may be obtained from Miss Ada Hunt, University of Illinois, Urbana, at $1.00 a copy.

The Cooking of Green Vegetables. The color of a cooked vegetable may be one standard of judging the desirability of a cooking process, but it is certainly not the only one which should be considered in our teaching. It is hard to reconcile the facts, which modern research in nutrition are revealing, with the methods of cooking green vegetables which are advocated by some textbooks and teachers.

It is true that a vegetable cooked in a surplus of water which is later discarded will have a milder flavor and probably a better color than one cooked in a very small amount of water. Masters and Garbutt[1] attribute the deterioration in color chiefly to the action, on the chlorophyll, of acids liberated during cooking. They found that during cooking hydrogen sulfid and probably also volatile organic acids were freed. When vegetables were cooked in steamers or in closed vessels with a small amount of water, the retention of those acids was increased and gave a darkened product. These writers advocate cooking the vegetables in an open vessel containing a surplus of rapidly boiling water (the water to be discarded later) to insure a maximum loss of volatile acids and a diluting effect upon the soluble acids, both of which might otherwise darken the color of the vegetable.

The other side of the question is presented in data on the losses of minerals and vitamines during cooking by their passage into the cooking water. As much as 50 per cent or more of the total ash of vegetables, and also practically one-half of the iron were found by Blunt and Otis[2] to be lost in the water in which the vegetables were boiled. The antineuritic vitamine commonly called the water-soluble *B* has been found by Miller[3] and also by Whipple[4] to pass into the cooking water to the extent of 36 to 70 per cent when quantitative methods for the estimation of that vitamine were employed. Parallel with these findings are those of Denton[5] on losses of fuel value. This author found that from 15 to 60 per cent of the caloric value of boiled vegetables was lost.

[1] H. Masters and P. Garbutt. An Investigation of the Methods Employed for Cooking Vegetables, with Special Reference to the Losses Incurred. Part II. Green Vegetables, *Biochem. Jour.*, 14 (1920), p. 75.

[2] K. Blunt and F. Otis. Losses of Iron in Cooking Vegetables, *Jour. Home Econ.*, 9 (1917), p. 213.

[3] E. W. Miller. The Effect of Cooking upon the Water-soluble Vitamine in Carrots and Navy Beans, *Jour. Biol. Chem.*, 44 (1920), p. 159.

[4] B. K. Whipple. Water-soluble *B* in Cabbage and Onion, *Jour. Biol. Chem.*, 44 (1920), p. 175.

[5] M. C. Denton. Changes in the Food Value of Vegetables Due to Cooking, *Jour. Home Econ.*, 11 (1919), p. 143 and 200.

Two of the many questions which come to mind when all these facts are considered are: first, is it not possible to cook vegetables in such a way that volatile acids are expelled to avoid discoloration and that the liquid will still be of such small volume that it can be served with the vegetable? Experimental cooking teaches us that there are often many ways of arriving at a good product. It is hoped that the literature on this subject will be increased by more experimental data soon. The other question is, does the ordinary American diet contain such an abundance of minerals and vitamines that we can afford such losses as we incur by pouring vegetable water down the sink-drain?

THE OPEN FORUM

A Piece of Home Economics Work. The *Vocational Summary* for April gives an interesting account of nutrition work being conducted by the Department of Home Economics, Michigan Agricultural College, for a group of Federal Board men in training in that institution. Fifty per cent of the 157 men enrolled were diagnosed as suffering from malnutrition. Several having arrested cases of tuberculosis were in dire need of special diet. Dean Mary Sweeny, Head of the Home Economics Department, took the matter in hand and, as a result, fifteen of the more critical cases were placed under the care of Hilda Faust, instructor in charge of the work in nutrition. In order that they may understand the treatment and follow the instructions given, the men attend a nutrition class. Meals are served to them at cost by the students in dietetics. The immediate result has been that these men have not only gained in general health, but will be able to complete their training which, without this help, might not be possible.

But this touches a local situation only. The time has come for home economics departments and people to ally themselves definitely with the larger health programs. It may be that the beginning will have to be made through educating the presidents and general faculties of their colleges, but most of all they will need to take counsel among themselves as to how their teaching can be made vital as well as academic. Students preparing to teach in the public schools must be inspired to take the place and responsibility for which their training fits them. With the general awakening to the importance of health education in the schools there is no room for the home economics trained teacher who allows her work to be limited to classes in "cooking and sewing."

A. R. V.

THE QUESTION BOX

Question: Why is beefsteak toughened by covering when sauteing while chicken under the same condition is made more tender?

Answer: A chicken used for sauteing contains a much more delicate connective tissue matrix than does the beef usually cooked in this way. Comparisons made between a very tender piece of beef, for example tenderloin, and chicken approximately one year old of equal thickness will show that these two will become tender in approximately the same time.

Question: Are phosphate baking powders as quick in action as cream of tartar powders when they come in contact with water?

Answer: Both phosphate and cream of tartar powders give off gas very quickly, the reaction beginning as soon as water comes in contact with the powders. The phosphate powders are combinations of sodium bicarbonate and acid potassium phosphate in some cases and acid calcium carbonate in others. These are both more soluble in cold water than cream of tartar, and, therefore, the reaction in the cold is completed in somewhat less time than when cream of tartar is used.

Question: What effect has vinegar in fat used for frying doughnuts?

Answer: The addition of vinegar to doughnuts will in no way affect the efficiency of the frying process. The smoking fat is sufficiently hot to drive off or decompose the organic acids contained in the vinegar. Acetic acid boils at 119°C. whereas the fat used in frying doughnuts is heated to 220°C.

Question: Does the pressure cooker with its high temperature make protein foods harder to digest?

Answer: Certain types of protein-containing foods, for example peas and beans, are rendered more digestible by cooking in the pressure cooker, the high temperature being more effective than the boiling temperature in dissolving the hemicelluloses. It is possible, furthermore, that the high temperature renders the protein of the bean (phaseolin) more readily digestible. Recent work has shown that cooking this protein for five minutes gave "detectable increase in digestibility" while cooking for three-quarters of an hour was apparently sufficient to produce the maximum effect.[1]

Tough meats also may be made more readily digestible by cooking at high temperature, owing to the fact that the tough connective tissue is more readily hydrolized (gelatinized).[2] Egg white and cheese, on the other hand, would be less readily digested than if prepared by the usual methods.

[1] The Effect of Cooking on the Digestability of Phaseolin. *Proc. of the Amer. Soc. of Biol. Chemists*, Dec. 28-30, 1920.

[2] See also pages 361 to 366 of this issue of the JOURNAL.

BOOKS AND LITERATURE

Standards of Living. A Compilation of Budgetary Studies. Bureau of Applied Economics, Washington, D. C., 1920, pp. 156. $3.00.

This book brings up to date the summaries of budgetary studies published in earlier bulletins of the Bureau of Applied Economics, and there are added digests of later studies. For purposes of comparison there are also added the results of such early work as the studies of More and Chapin, made in New York City in 1907. A few of the headings will show the wide range of these papers: Minimum Quantity Budget Necessary to Maintain a Family in Health and Decency, made by the Bureau of Labor Statistics, 1920; Budget for Bituminous Coal Mine Workers, 1919; Working Man's Standard of Living in Philacelphia, 1918; Minimum Budgetary Estimate for Pacific Coast Workers, 1918.

Perhaps the study which adds most to our scanty knowledge of budgets beyond the working man's income is the Tentative Quantity and Cost Budget Necessary to Maintain a Family of Five in Washington, D.C., at a Level of Health and Decency, the aim of the study being to furnish information for the use of the Joint Commission of Congress on reclassification of salaries for government employees.

The great value of the papers here brought together can hardly be appreciated by those who have given the subject no special study. Out of many confused statements there emerges some certainty as to the quantity of things necessary to the maintenance of a family. For this end, close study by people of experience in actual conditions, an average and comparison of many such observations, and that judgment which knows how to vary from the iron rule in the interest of the larger truth are all necessary. The pricing of the quantity budget is a mechanical matter easily adjusted to changes, but the fixing of standards once made may remain of more or less permanent value. These studies show the intelligence of the directing mind of Royal Meeker, the former chief of the Bureau of Labor Statistics.

Those who feel that such estimates must be largely theoretical will be surprised at the wealth of detailed study on which conclusions are here based.

The discussion of the number of rooms necessary per family is suggestive to those who have considered that no standard is possible. For the working man a little less than one room per person is found to be common. A valuable suggestion is made that floor space is a better basis of requirements than is the number of rooms; 550 to 660 square feet is thus seen to have great possibilities. It would be worth while to work out the possibilities of one room of ample proportions by the use of screens, sliding doors, folding beds, and other devices.

A depressing thing in the reading of these budgets is the monotony of life and of pleasures. Little of the creative seems to be possible. The moving picture is the sole form of amusement. It would be interesting to compare in this regard the life of the family in foreign countries living on the same amount of money. Another difference would probably appear: none of these families studied have savings except in the form of life insurance.

It is to be regretted that the price of this reprint of what were free publications is placed at $3.00.

MARY H. ABEL.

Household Budget. Home Economics Bureau, Society for Savings, Cleveland. Distributed free to depositors; to others, 50 cents.

Sarah J. MacLeod, Director of the Home Economics Bureau, is responsible for this combination budget and account book which shows plainly the result of her practical experience in budget making.

It is not merely an account book, but a budget record as well, and, if used as directed, gives constant possibility for comparison between the budget as planned and the actual expenses. Clear, concise directions for use are given in the opening pages. Miss MacLeod makes it evident that a record of money spent is of little value unless used for study and as a basis for new and better plans.

Unlike the usual budget-making directions of five years ago, there is no suggestion that any definite percentages can be "ideal" when applied to varying incomes or conditions.

It is good to note that "Savings" is not given as a sub-heading, but is one of the six general divisions, and starts the list under which all of the expenditures are grouped. The sub-headings are clear and definite with little opportunity for misunderstanding. Where two or three forms of expense are entered in one column, one or the other is a fixed charge and easily subtracted from the total so that there is no necessity for confusion when making estimates for a new budget plan.

Miss MacLeod has carefully avoided that pitfall for the inexperienced, a column for miscellaneous or sundry expenses. Housekeepers will find few columns which they will not need to use or of which they will want to change the headings. There are sufficient blank columns so that expenditures for items not common to every family, as automobile, care of grounds, may be entered by themselves; clothing charges may be subdivided if preferred, and details regarding any one item may be kept until standardized and then again combined with the larger group.

There are many account books on the market, but few so flexible, simple, and at the same time so practical, as this. There is little danger that the inexperienced will be afraid to attempt its use. The book shows the result of practice rather than theory.

Miss MacLeod's book solves a problem for many people who have for years crossed out suggested headings and written in their own, or found themselves obliged to combine records which they wished to keep separate. Yet even this will meet with objections, as some will prefer to keep their contributions to benevolence apart from church pledges. Every practical worker realizes that just as there are no ideal percentages applicable to every problem, so there are no ideal account books which will suit every housekeeper. That Miss MacLeod has succeeded in coming near to that ideal is a matter for congratulation.

S. AGNES DONHAM.

The Art of Spending and *The Weekly Allowance Book.* Published for Banks by The American School of Home Economics, 306 West 69th Street, Chicago. 10 cents each.

The Art of Spending takes up a discussion of budgeting, and gives detailed descriptions of the accounting check books for personal, household, farm, and office use, and also of the *Weekly Allowance Book*, all of which have been devised by the author. A list of helpful books is included. The pamphlet is intended for wide distribution and it should do much towards arousing interest in personal and family budgeting.

The Weekly Allowance Book is a small budget and expense book which carries accounts for thirteen weeks or one-fourth of a year. It has the advantage of being small enough to be slipped into either the pocket or the purse. The expenses are classified as Savings, Food, Clothing, Rent, Operating, Advancement, Luxuries, and Personal. Provision is made for the daily and weekly totals of the expenditures as classified. This book should make a special appeal to people who desire a weekly rather than monthly account system, and it should help these people to systematize their saving and spending.

SARAH MACLEOD

The Nursery School. By MARGARET MCMILLAN. New York: E. P. Dutton and Company, 1919, pp. 356. $4.00.

Nursery School Education. By GRACE OWEN. New York: E. P. Dutton and Company, 1920, pp. 176. $2.50.

These two books are descriptive of the Nursery School Movement in England, a movement of special interest to those concerned with the nurture—that is, the hygiene and education—of children between two and five years of age. In so far as this group of young children is a matter of public concern in this country it is provided for almost exclusively by volunteer organizations, while in England it is provided for by the government. This provision, first made by the English government after the passage of the Fisher Bill in 1918, was largely the result of war conditions which threw into high relief the value of child life, and led to the establishment of the nursery school as the first step in the English educational system.

In her book, Miss McMillan, one of the pioneers in this movement, gives an *intensive* study of her nursery school, a joyous spot in a besotted part of London. She writes with the fervor and enthusiasm of the pioneer, the person of vision. Throughout its pages her book is suffused with deep emotion caused by the sacrificial death of her beloved sister and co-worker, Rachel, who succumbed to exhaustion in her effort to provide mothering for England's neglected children. Naturally the appeal is intensely human. Miss McMillan has put all she has and is into this work, vitalizing it with a personality distinctive for its charm and ability. As a consequence her nursery school is considered remarkable for its health record and for its social value. Educationally one may question her methods, but the fact remains that the children are wholesomely happy, and furnish the joy motive that runs throughout the book.

Miss Owen, writing from the standpoint of an experienced teacher, makes an *extensive* study of the nursery school movement, giving a clear idea of its history, purpose, and educational procedure. She is principal of the Mather Training College, affiliated with Manchester University, and, as is interesting to note, received part of her training at Teachers College, Columbia University. Three specialists—two in the field of educational psychology, and one a physician—collaborate with her in writing this book, which is by far the best presentation of the matter yet published. It states that the free kindergarten was the immediate pioneer of the nursery school, and in a clear way notes the features in both kindergarten and day nursery most valuable in the nurture of young children. The appeal is to the intelligence rather than to the emotions. Educationally the book inspires confidence.

In a word Miss McMillan's book is especially valuable in arousing popular interest in the nurture of young children, while Miss Owen's book is the safer guide when it comes to actual work with children and students-in-training. Both books are full of suggestion and inspiration for those interested in demonstration nurseries connected with schools of household arts and science; kindergartens; day nurseries; "Little Mothers' Clubs"; training courses for child nurses; pre-school groups in private schools, playrooms, playgrounds.

These books are significant because they mark the educational approach to the pre-school period, a new development which has been long awaited. The medical approach has already been made with signal success. But the combination of the educational and the medical is needed if adequate provision is to be made for the nurture of young children. War conditions have forced England to make such provision. In this country we are only beginning to realize that to allow children to become handicapped in countless preventable ways before they enter school is an unpardonable wrong for an intelligent people to commit. All this is brought home to us with convincing earnestness by these two English women who point the way in this educational advance, so basic and far-reaching in its importance to individual and to national life.

ELIZABETH JENKINS.

The Conservation of Textiles. By HARVEY GERALD ELLEDGE and ALICE LUCILLE WAKEFIELD. Published by Laundry Owners Association, LaSalle, Illinois, $1.00.

The Laundry Owners Association has constantly presented to its members, through the national and state association meetings and through its monthly publications, new formulae for bettering the work of the trade. Teachers of textiles and dyeing, as well as supervisors of hospital and school laundries, will gain much from these commercial publications. Unfortunately all are not within reach of the person out of the trade and it is for this reason we welcome the chance to purchase such a report.

The book is a report of five years' work in the Research Department of Mellon Institute, Pittsburgh, Pa. It is divided in to chapter headings—Fibers, Weaves, Mechanical Source of Damage, Corrosive Materials, —and ends with a comprehensive chapter and chart on Treatment for Stains.

The illustrations, made through a very powerful microscope, have great value in showing irregularities in cheap and dishonest fabrics, besides the reason for the short life of many.

The book presents the laundry man's study of the reasons for the heavy blame thrust by the housewife upon him rather than upon the manufacturer.

Often the short life of the fabric is due to poor weave, poor and irregular length fibres, and to the physical and chemical wear and tear of sunlight, dust, bad soaps, body excretions, to say nothing of the effect of bleaches and dyes.

L. RAY BALDERSON,
Teachers College.

More Recipes for Fifty, by FRANCES LOWE SMITH, was mislisted, in the Bibliography of the April JOURNAL, as a revised edition of *Recipes and Menus for Fifty*. *More Recipes for Fifty* does not duplicate the earlier book, but contains new material prepared to meet conditions arising from the war.

Breakfasts, Luncheons, and Dinners. By MARY D. CHAMBERS. Boston Cooking School Magazine Company. 1920, pp. 137, $1.25.

This little book attempts to cover a good deal of ground, for its sub-title is "How to plan them, how to serve them, how to behave at them. A book for home and school." While it contains six pages on "the balanced menu" and eight pages of tables showing the caloric value of foods and their vitamine content, the book is essentially a book on table etiquette, and this on the whole seems to be correctly and clearly given. It is emphatically not a book for general school use, however, for the simple home service of a meal is hardly more than suggested, while minute directions are given for elaborate service. This is not in accord with the suggestion made in a recent number of the JOURNAL that in the schools it is time that we recognized frankly that home service must, under existing conditions, be generally of the service-without-a-maid type.

The book as a whole is not faddish, so one is somewhat surprised to learn that "it is a sign of ignorance of good usage to eat one's cereal with a teaspoon—a fact which girls in school, or even in college, are not always aware of." Nor is the suggestion that the breakfast napkins must be smaller than the dinner napkins very practical for most households. One wonders if the "unwritten law that a solid color of any kind (for a table cloth), with scalloping in a contrasting color or in white, is admissible for either breakfast or lunch, but a two-colored fabric is not to be thought of, still less a checked one" may not be a short-lived style instead; for immediately an exception is made of Japanese crepe in blue and white. On page 100 nearly half a page is devoted to forbidding one to lift a glass or cup by putting "even one finger inside." As the principle underlying the objection is not mentioned, however, one ignorant enough to need the reproof might serenely set the table in this way, thinking the objection was to being seen doing it; and nothing at all is said in regard to picking up a glass with one's fingers too

near the top, even although they are entirely "on the outside."

The book however will undoubtedly find its place with those persons interested in the niceties of etiquette.

MABEL T. WELLMAN,
Indiana University.

Dehydrating Foods, Fruits, Vegetables, Fish, and Meats. By A. LOUISE ANDREA. Boston: The Cornhill Company, 1920, pp. 198. $1.75.

This book discusses a method of dehydrating food without previous cooking that, it is claimed, may be successfully applied to a majority of foods. It also presents arguments for the use of dehydrated products. The directions for the "home hydration" of food are clear and specific, and should be easy for the housewife to follow. The apparatus for the household as well as commercial use is clearly described. The second half of the book is devoted to recipes for the use of the various dehydrated products.

Five Short Home Economics Plays. Written and presented by students in Oklahoma College for Women. Published by S. Deborah Haines, 1372 E. 57th St., Chicago, 1921, pp. 15. Ten cents.

These health plays were written by the Freshman home economics students in their English classes. They effectively demonstrate what can be accomplished by coordinating home economics work with other subjects in the school curriculum.

These playlets are one-act plays and would require about ten minutes each for presentation. "Little Potatoes" and "Fairyland and Real Life" could be used as illustrative material in nutrition class work. The other plays, "The Prodigal," "Foundation Stones in Home Building" and "Mother's Wise and Foolish Children" are especially adapted for use in home economics classes in upper grades.

GERTRUDE GATES MUDGE.

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NEWS FROM THE FIELD

The Fourth Annual Meeting of the American Dietetic Association will be held October 24 to 26 at the LaSalle Hotel, Chicago, Illinois. Miss Emma Gunther, Teachers College, is chairman of the program committee.

The present officers are: Mrs. Mary De Garmo Bryan, president; Ruth Wheeler, first vice-president; Rena Eckman, second vice-president; Lulu G. Graves, honorary president; Ellen Gladwin, treasurer; E. M. Geraghty, 801 S. Wright St., Champaign, Illinois, secretary.

The chairmen of sections are: Administration—Mary Lindsley, Manager Grace Dodge Hotel, Washington, D. C.; Education—Ruth Wheeler, Professor of Nutrition, University of Iowa Medical School; Social Service— Lucy Gillett, Head of the Nutrition Bureau, Association for Improving the Condition of the Poor; Dieto-therapy—Rena Eckman, University of Michigan Hospital.

The morning and afternoon sessions will be taken up with the work of the various sections, addresses along the specific lines of the work done, and round table discussions of the problems of each section. The evening talks will be of important general interest to all members.

The administrative section has been making a study of equipment, supplies, wages, food, and morale of employees. This represents the best experience of trained dietitians in institutions in all sections of the country, and will be presented in usable form.

The education section will present the work of its committees dealing with the hospital training of the student dietitian, graduate work for the dietitian, and the curriculum for teaching dietetics to nurses in the training school.

The social service section will give reports of studies of dietary customs of various nationalities, and will discuss the importance of special consideration of diet in any Americanization plan. The Cooperation of Social Service Dietitians in the Public Health Movement is the Round Table subject.

On the program of the dieto-therapy section there are a number of nutrition experts and the round table discussions are to include educational propaganda in tuberculosis sanitariums, State Board examination questions in dietetics, and a survey of activities in dieto-therapy.

This is an excellent opportunity for dietitians to get together, to know each other. The Chicago Association plans a tea for Monday afternoon, and the Monday evening meeting will be a dinner meeting. Numerous professional trips have been arranged for Thurdsay morning following the convention.

Let every dietitian plan to make this trip to the convention a part of her vacation. For dietitians in all fields the meeting will be filled with interesting information, stimulating associations, inspiration for a new year, and a deeper understanding of true professional spirit.

National Advisory Committee on Foods and Nutrition. Those who appreciate the importance of attacking the malnutrition problem in a concerted way will be interested in a meeting of the National Child Health Council's Advisory Committee on Foods and Nutrition, which was held in New York, June 4. The committee was formed in order that the Council might secure a concensus of authorative opinion regarding policies, methods, and standards which are essential to the effective conduct of nutrition work.

The committee consists of twenty-seven members, of whom twelve are representatives of national organizations interested in nutrition, such as the American Home Economics Association, the Department of Agriculture, the American Red Cross. The

remaining members of the Committee are individuals selected on account of the fact that they have outstanding ability in this particular field. Seventeen members of the committee were present at the meeting, and the progress made was most gratifying. Dr. Joseph Goldberger of the U. S. Public. Health Service was elected chairman of the entire committee, and four sub-committees were organized as follows:

Organization and Conduct of Nutrition Work: Lucy Gillett, chairman; Mary G. McCormick, Dr. Mary Swartz Rose, Anne Sutherland, Mrs. Ira Couch Wood, Grace Schermerhorn, Dr. Royal S. Haynes, Dr. Amy Daniels, Dr. Anna E. Rude, Mrs. Henrietta W. Calvin.

Training for Nutrition Workers: Dr. Mary Swartz Rose, chairman; Dr. William P. R. Emerson, Lucy Gillette, Dr. Lafayette B. Mendel, Dr. Agnes Fay Morgan, Dr. Samuel McC. Hamill, Dr. Ruth Wheeler, Margaret Sawyer.

Food Requirements: Dr. John R. Murlin, chairman; Dr. C. F. Langworthy, Dr. Graham Lusk, Dr. Henry Sherman, Dr. Lafayette B. Mendel, Dr. Joseph Goldberger, Lydia Roberts, Dr. E. V. McCollum, Dr. Alonzo E. Taylor, Dr. Fritz Talbot, Dr. H. R. M. Landis, Edna White.

Malnutrition: Dr. William P. R. Emerson, chairman; Lydia Roberts, Dr. Lafayette B. Mendel, Dr. John R. Murlin, Dr. Joseph Goldberger, Dr. Anna E. Rude.

Running a Near East Relief Orphanage. For three years Mr. Edward Perry has managed the orphanage at Igdir, Armenia, near Erivan, the capitol of the country. He built his future citizens on bundles of skin and bones, and had only seventeen cents per child per day as tools with which to do the building.

That seventeen cents was spent on vegetables, meats, milk, and cereals. The vegetables were made into a thick soup with a pinch of meat; the milk was canned milk from the United States; the cereals were made of grains which had been prepared for consumption by the most primitive methods.

"There was so little to eat," he relates, "that I thought the children would go hungry, and get thinner, if such a thing were possible. But I found, to my surprise, that they steadily put on weight, developed muscle, slept well, played and worked with vigor, and were on the road to becoming a crowd of as healthy, hearty youngsters as one may find anywhere. The reason for this development is expressed in two words —regularity and frugality."

The Annual Conference of the Association of Teachers of Domestic Subjects in England was held in the Bishopsgate Institute May 21, with Lady Askwith in the chair. Among the subjects discussed were: Course for Teachers of Domestic Subjects, by E. Gladys Clarke, Principal National Training School of Cookery, and New Methods of Approach to Domestic Subjects for the Day Continuation Schools by Mrs. Ridgeway, Principal of Hammersmith Girls' Continuation School.

London Continuation Schools. Day continuation schools which were opened in London in January enrolled 12,000 pupils, or 82 per cent of the first age group officially registered for such instruction. At the Whitechapel Day Continuation School 99 per cent of those registered were in attendance. This large initial enrollment is due to the active coöperation of the head teachers of the elementary schools and of the school principals who surveyed the industrial conditions and social activities of their districts.

French School For Hotel Workers. A three-year course in hotel work is being conducted at Grenoble, France, under the supervision of the Ministry of Public Instruction. The school is maintained by the French Government, and is open to men and women. The teaching staff consists of five graduate professors, five auxiliary masters versed in hotel work (including the management of a kitchen), and three instructors in foreign languages.

The senior home economics students at the **Kansas State Agricultural College** have recently had four weeks strenuous training in the preparation of meals.

For three weeks, dinner was served at the college to faculty members and their wives, at thirty-five cents a plate. The girls did all the planning and work in connection with the meals. The style of dinner and service was changed three times each week. Monday and Tuesday the English style of dinner (informal service with a waitress) was served; on Wednesday and Thursday the dinners were formal; on Friday and Saturday they were informal or family dinners, without a waitress. On the last two days one of the students acted as hostess, waited on the table, and did the serving much the same as it is done in the average home. The last week of the four was devoted to the planning and serving of formal and informal buffet luncheons.

At a meeting of the **Council of the Montana Home Economics Association,** held in Bozeman, May 30, the following topics were considered in round table discussions:

Plans for the regular yearly meeting next fall; state dietetic requirements for nurses; the high school dormitory problem; reasons why home economics work is considered one of the things which could be dispensed with temporarily under the present financial stringency; the promotion of branch and student associations; discussion of the Fess and Smoot bills and means for publicity; methods by which the State Home Economics Association can incorporate with the women's clubs of the state.

A Home Economics Club of fifty members has been organized at Stephens Junior College, Columbia, Mo. The purpose of the club is to acquaint the girls with the scope of Home Economics and the opportunities it offers. The club made a contribution to the Ellen H. Richards Memorial Fund as one of its first official acts.

"The Female of the Species." Recent information from the Bureau of Education concerning the salaries of home economics supervisors in 31 cities of over 100,000 population gives the following figures: The minimum salary of home economics supervisors is $1500. About one-fourth of all supervisors receive between $1500 and $2000 per year; one-half receive salaries between $2000 and $2500; and one-fourth between $2500 and $5000. There is but one supervisor in the United States receiving $5000. The salaries of supervisors of manual training vary from $1900 to $5000, with one-half of the men supervisors receiving between $2500 and $3750.

Daughters of the American Revolution at the annual session of the organization in Washington adopted resolutions declaring that the clearest vision of the nation recognizes the urgent need of honest work, systematic saving, and sane spending, and pledged the members to advance in every way the purchase of government savings securities as the surest means for the development of understanding of the value of money. The Daughters pledged themselves not only to make an individual practice of investment in government savings securities but to aid in the establishment of thrift banks and the introduction of thrift instruction in the curricula of all schools.

The New Fifth Avenue Hospital will be the first institution in this country to abolish the ward system. All its rooms will be private and single, and, because of the peculiar X-shaped construction of the building, every room will be open to light and air. One floor will be devoted to children's cases and will have two play roofs; all maternity cases will be segregated on another floor.

The institution is planned to meet the great and pressing need for a hospital for the "inbetween" class of people—neither the very rich nor the very poor. An employee will be able to receive exactly the same care and treatment as would be given to his employer, and the charges will be in proportion to their incomes.

The Mary Gay Theater and the characters of Judge Scales, the Dragon, and others have been originated by Stella Boothe, R.N., of the Mary Gay Studio, New York City, in order to get health facts over to children, especially to those in rural schools. Miss Boothe has two theaters, a small one which can be packed in a suitcase and demonstrated by teachers, nurses, and public health workers; and a larger portable one which she herself uses, giving demonstrations and telling her health stories to children. The characters, made of shellacked cardboard, are very realistic in design. Three of the six plays ready for presentation are Bed Time Adventure, Health Habits, Good and Bad citizens in the Land of Food. These demonstrations are under the auspices of the Child Health Organization of America.

The Farm and Home Bureaus of Broome County, New York, recently celebrated the tenth anniversary of the founding of the first County Farm Bureau in that state.

No small part of the program was the review of the work of the Home Bureau formed in connection with the Farm Bureau in 1914. The home economics extension work in New York State is carried on through the Home Bureaus, and there are now twenty-nine organized counties and others preparing for organization.

Coöperating with the County Farm and Home Bureau Association are the United States Department of Agriculture, New York State College of Agriculture, and the State Department of Farms and Markets.

Dr. Ruth Wheeler, has been appointed Professor of Nutrition in the College of Medicine of the State University of Iowa. Dr. Wheeler is a graduate of Vassar College and received her Degree of Doctor of Philosophy in Nutrition from Yale. For the past three years she has been Head of the Department of Home Economics at Goucher College, Baltimore. Previous to this she was Associate Professor in the University of Illinois. One of her most discussed pieces of research was in connection with a study of a number of proprietary foods for infants.

The College of Medicine of the State University of Iowa has the distinction of having appointed the first woman, if not the first person, to a chair of nutrition in a medical college, and this new departure will be watched with interest. The relation of food to health has had long and varied attention from faddists, but, thanks to scientific research, this relationship is now so well established that the medical profession is recognizing the need for incorporating in their courses of training the very best that can be known upon the subject.

Dr. Wheeler will have entire control of the food department of the University hospitals, and will have charge of the courses in nutrition to be offered for the medical students, dietitians, and nurses. She will also conduct research.

During the entire period of the war, Dr. Wheeler served upon the National Committee on Nutrition Service which was responsible for the enrolling and assigning of dietitians for work in Army and Navy hospitals, both at home and overseas. For the past two years she has been Chairman of the Committee and has been active in all matters relating to plans for developing the nutrition activities of the Red Cross peace-time program.

Mary A. Lindsley is now manager of the Grace Dodge Hotel, in Washington, a commercial hotel for transient and resident women guests.